



1645

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert M. Townsend et al. Examiner: Phillip Gambel, Ph.D.
Serial No.: 09/877,987 Group Art Unit: 1645
Filed: June 8, 2001 Docket: D0009NP; 30436.53USU1
Title: METHODS FOR REGULATING A CELL-MEDIATED IMMUNE RESPONSE BY
BLOCKING LYMPHOCYTIC SIGNALS AND BY BLOCKING LFA-1-MEDIATED
ADHESION

CERTIFICATE UNDER 37 CFR 1.8

I hereby certify that this paper or fee is being deposited with the United States Postal as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on December 11, 2002.

By: 

Name: Tracy Truick

RECEIVED

55 South Lake Avenue, Suite 710
Pasadena, California 91101
December 11, 2002

DEC 18 2002

Assistant Commissioner for Patents
Washington, D.C. 20231

TECH CENTER 1600/2900

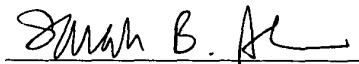
Sir:

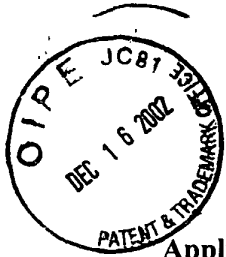
We are transmitting herewith the attached:

- ☒ Transmittal Sheet in duplicate containing Certificate under 37 C.F.R. 1.8
- ☒ Supplemental Information Disclosure Statement (37 C.F.R. §1.97(b))
- ☒ Form 1449 (Information Disclosure Statement)
- ☒ Exhibits 53-87
- ☒ Return postcard

Please charge any and/or additional fees or credit overpayment to Deposit Account No. 50-0306. A duplicate of this sheet is enclosed.

MANDEL & ADRIANO
55 South Lake Avenue, Suite 710
Pasadena, California 91101
(626)395-7801

By: 
Name: Sarah B. Adriano
Reg. No.: 34,470
Initials: SBA
Customer No. 26,941



RECEIVED
DEC 18 2002
TECH CENTER 1600/2900

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert M. Townsend, et al. **Examiner:** Phillip Gambel, Ph.D.
Serial No.: 09/877,987 **Group Art Unit:** 1644
Filed: June 8, 2001 **Docket No.:** D0009NP/30436.53USU1
Title: METHODS FOR REGULATING A CELL-MEDIATED IMMUNE RESPONSE
BY BLOCKING LYMPHOCYTIC SIGNALS AND BY BLOCKING LFA-1
MEDIATED ADHESION

CERTIFICATE UNDER 37 CFR 1.8:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on December 11, 2002.

By: Tracy Truick

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
(37 C.F.R. §1.97(b))

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This Supplemental Information Disclosure Statement is being filed herewith as a supplement to Applicant's October 26, 2001, Information Disclosure Statement which was submitted under 37 C.F.R. §1.97 (b) before the mailing of a first Office Action on the merits.

With regard to the above-identified application, the items of information listed on the enclosed Form 1449 are brought to the attention of the Examiner. They are as follows:

- Battleman, David S., et al., 1993 *J. Neurosci.* "HSV-1 Vector-Mediated Gene Transfer of the Human Nerve Growth Factor Receptor P75hNGFR Defines High-Affinity NGF Binding," 13:941-951. (Exhibit 53)

- Bolling, S.F., et al. 1996 *J. Surg. Res.* "The Time course of CTLA4Ig effect on cardiac allograft rejection," 63:320-323. **(Exhibit 54)**
- Bolling, S.F., et al., 1994 *J.Surg.Res.* "The Effect of combination cyclosporine and CTLA4Ig therapy on cardiac allograft survival," 57:60-64. **(Exhibit 55)**
- Dariavach, Piona., et al., 1988 *Eur.J.Immunol.* "Human Ig superfamily CTLA-4 gene: chromosomal localization and identity of protein sequence between murine and human CTLA-4 cytoplasmic domains," 18:1901-1905. **(Exhibit 56)**
- Fulmer, R.I., et al. 63 A.D. *The American Journal of Anatomy* "Transplantation of cardiac tissue into the mouse ear," 113:273-281. **(Exhibit 57)**
- Hansen, John A., et al., 1980 *Immunogenetics* "Monoclonal Antibodies Identifying a Novel T-Cell Antigen and Ia Antigen of Human Lymphocytes," 10:247-260. **(Exhibit 58)**
- Johnsson, B., et al., 1991 *Anal. Biochem* "Immobilization of Proteins to a Carboxymethyl-dextran-Modified Gold Surface for Biospecific Interaction Analysis in Surface Plasmon Resonance Sensors," 198:268-277. **(Exhibit 59)**
- Khilko, S.N., et al., 1993 *J. Biol. Chem.* "Direct Detection of Major Histocompatibility Complex Class I Binding to Antigenic Peptides Using Surface Plasmon Resonance," 268:15425-15434. **(Exhibit 60)**
- Lauzon, R.J., et al., 1989 *Cell Immunol.* "The Role of T cell receptors in non-MHC-restricted cytotoxicity," 118:265-284. **(Exhibit 61)**
- Carroll, R., et al., 1993 *Gene Therapy* "Construction and Characterization of Replication-Defective HIV-1 Packaging Cell", 17E:241: SZ401. **(Exhibit 62)**
- Linsley, Peter S., et al., 1992 *J.Ex.Med* "Coexpression and Functional Cooperation of CTLA-4 and CD28 on Activated T Lymphocytes," 176:1595-1604. **(Exhibit 63)**
- Linsley, Peter S., et al., 1994 *Immunity* "Human B7-1 (CD80) and B7-2 (CD68) Bind with Similar Avidities but Distinct Kinetics to CD28 and CTLA-4 Receptors," 1:793-801. **(Exhibit 64)**

- Linsley, Peter S., et al., 1995 *J. Biol. Chem.* "Binding Stoichiometry of the Cytotoxic T Lymphocyte-associated -Molecule-4 (CTLA-4)," 270:15417-15424. **(Exhibit 65)**
- Linsley, Peter S., and J.A. Ledbetter. 1993 *Annu. Rev.Immol.* "The Role of the CD28 receptor during T cell responses to antigen," 11:191-212. **(Exhibit 66)**
- Malik, Najma et al., 1989 *Mol .and Cell. Biol.* "Molecular Cloning, Sequence Analysis, and Functional Expression of a Novel Growth Regulator, Oncostatin M.," 9:2847-2853. **(Exhibit 67)**
- Martz, E., et al. 1985 *Adv.Exp.Med.Biol.* "Lymphocyte function-associated antigens: regulation of lymphocyte adhesions in vitro and immunity in vivo," 184:291-307. **(Exhibit 68)**
- Metzler, William J., et al., 1997 *Nature Struct. Biol.* "Solution structure of human CTLA-4 and delineation of a CD80/CD86 Binding Site Conserved in CD28," 4:527-531. **(Exhibit 69)**
- O'Shannessy, Daniel J., et al., 1993 *Anal. Biochem* "Determination of Rate and Equilibrium Binding Constants for Macromolecule Interactions Using Surface Plasmon Resonance: Use of Nonlinear Least Squares Analysis Methods," 212:457-468. **(Exhibit 70)**
- Peach, Robert J., et al., 1994 *J.Exp.Med.* "Complementarily Determining Region 1 (CDR1) and CDR3-analogous Regions in CLTA-4 and CD28 Determine the Binding to B7-1," 180:2049-2058. **(Exhibit 71)**
- Price, M.R., et al., 1986 *Br. J. Cancer* "Epitope analysis of monoclonal antibody NCRC-11 defined antigen isolated from human ovarian and breast carcinomas," 54:393-400. **(Exhibit 72)**
- Wallace, Philip M., et al., 1994 *Transplantation* "CTLA4Ig Treatment Ameliorates the lethality of murine graft-versus-host disease across major histocompatibility complex barriers," 58:602-610. **(Exhibit 73)**
- Williams, Sander R., et al., 1991 *Proc. Natl. Acad. Sci.* "Introduction of foreign genes into tissues of living mice by DNA-coated microprojectiles," 88:2726-2730. **(Exhibit 74)**

RECEIVED
DEC 18 2002
TECH CENTER 1600/2900

- Wingett, D., et al. 1999 *Cell Immunol.* "A Role for CD99 in T cell activation," 193:17-23. **(Exhibit 75)**
- Yokochi, Takashi, et al., 1982 *Journal of Immunology* "B Lymphoblast Antigen (BB-1) Expressed on Epstein-Barr Virus-Activated B Cell Blasts, B Lymphoblastoid Cell Lines, and Burkitt's Lymphomas," 128:823-827. **(Exhibit 76)**
- Bolling, Steven F., et al., 1996 *The Journal of Heart and Lung Transplantation* "Preventing allograft rejection with CTLA4IG: effect of donor-specific transfusion route or timing," 15:928-935. **(Exhibit 77)**
- Isobe, Mitsuaki., et al., 1997 *The Journal of Heart and Lung Transplantation* "Assessment of tolerance induction to cardiac allograft by anti-ICAM-1 and Anti-LFA-1 Monoclonal antibodies," 16:1149-1156. **(Exhibit 78)**
- Jaiswal, Archana I., et al., 1996 *International Immunology* "Regulation of CD40 ligand expression on naïve CD4 T cells: a role for TCR but not co-stimulatory signals," 8:275-285. **(Exhibit 79)**
- Suzuki, Jun-ichi, et al., 1997 *The Journal of Heart and Lung Transplantation* "Inhibition of accelerated coronary atherosclerosis with short-term blockade of intercellular adhesion molecule-1 and lymphocyte function-associated antigen-1 in a heterotopic murine model of heart transplantation," 16:1141-1148. **(Exhibit 80)**
- U.S. Patent No. 5,354,678 issued October 11, 1994 **(Exhibit 81)**
- U.S. Patent No. 5,824,655 issued October 20, 1998 **(Exhibit 82)**
- U.S. Patent No. 6,113,898 issued September 5, 2000 **(Exhibit 83)**
- U.S. Patent No. 6,090,914 issued July 18, 2000 **(Exhibit 84)**
- International Publication No. WO 98/56417 published December 17, 1998 **(Exhibit 85)**
- International Publication No. WO 95/34320 published December 21, 1995 **(Exhibit 86)**
- Greene, J., et al., 1996 *The Journal of Biological. Chem..* "Covalent Dimerization of CD28/CTLA-4 and Oligomerization of CD80/CD86 regulate T cell costimulatory interactions ," 271:26762-26771. **(Exhibit 87)**

Robert M. Townsend, et al.
Serial No. 09/877,987
Filed: June 8, 2001
Page 5

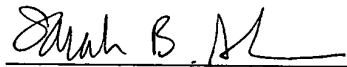
This statement should be considered because it is submitted before the mailing date of the first Office Action on the merits. In accordance with 37 C.F.R. §1.98(a) (2), copies of each document or other information listed on the enclosed Form 1449 are provided.

No representation is made that a reference is "prior art" within the meaning of 35 U.S.C. §§ 102 and 103 and Applicants reserve the right, pursuant to 37 C.F.R. § 1.131 or otherwise, to establish that the reference(s) are not "prior art." Moreover, Applicants do not represent that the references have been thoroughly reviewed or that any relevance of any portion of a reference is intended.

Consideration of the items listed is respectfully requested. Pursuant to the provisions of M.P.E.P. § 609, it is requested that the Examiner return a copy of the attached Form 1449, marked as being considered and initialed by the Examiner, to the undersigned with the next official communication.

No fee is deemed necessary in connection with the filing of this Supplemental Information Disclosure Statement. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee, or credit any overpayment, to Deposit Account No. 50-0306.

Respectfully submitted,



Sarah B. Adriano
Registration No. 34,470
Teresa Liang
Registration No. 51,946
Practitioners for Applicants
Mandel & Adriano
55 South Lake Avenue, Suite 710
Pasadena, California 91101
(626) 395-7801
Customer No. 26,941

FORM 1449*

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**

(Use several sheets if necessary)

Docket Number

D0009NP;30436.53USU1

Application Number

09/877,987

Applicant

Robert M. Townsend et al.

Filing Date

June 8, 2001

Group Art Unit

1645

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,354,678 (Exhibit 81)	October 11, 1994	Lebkowski et al.			December 21, 1992
	5,824,655 (Exhibit 82)	October 20, 1998	Border			February 15, 1995
	6,113,898 (Exhibit 83)	September 5, 2000	Anderson et al.			June 7, 1995
	6,090,914 (Exhibit 84)	July 18, 2000	Linsley et al.			April 15, 1994

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	WO 98/56417 (Exhibit 85)	December 17, 1998	PCT				X
	WO 95/34320 (Exhibit 86)	December 21, 1995	PCT				X

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		Battleman, David S., et al., 1993 <i>J. Neurosci.</i> "HSV-1 Vector-Mediated Gene Transfer of the Human Nerve Growth Factor Receptor P75hNGFR Defines High-Affinity NGF Binding," 13:941-951. (Exhibit 53)
		Bolling, S.F., et al. 1996 <i>J. Surg. Res.</i> "The Time course of CTLA4Ig effect on cardiac allograft rejection," 63:320-323. (Exhibit 54)
		Bolling, S.F., et al., 1994 <i>J.Surg.Res.</i> "The Effect of combination cyclosporine and CTLA4Ig therapy on cardiac allograft survival," 57:60-64. (Exhibit 55)
		Dariavach, Piona., et al., 1988 <i>Eur.J.Immunol.</i> "Human Ig superfamily CTLA-4 gene: chromosomal localization and identity of protein sequence between murine and human CTLA-4 cytoplasmic domains," 18:1901-1905. (Exhibit 56)
		Fulmer, R.I., et al. 63 A.D. <i>The American Journal of Anatomy</i> "Transplantation of cardiac tissue into the mouse ear," 113:273-281. (Exhibit 57)
		Hansen, John A., et al., 1980 <i>Immunogenetics</i> "Monoclonal Antibodies Identifying a Novel T-Cell Antigen and Ia Antigen of Human Lymphocytes," 10:247-260. (Exhibit 58)
		Johnsson, B., et al., 1991 <i>Anal. Biochem</i> "Immobilization of Proteins to a Carboxymethyl-dextran-Modified Gold Surface for Biospecific Interaction Analysis in Surface Plasmon Resonance Sensors," 198:268-277. (Exhibit 59)
		Khilko, S.N., et al., 1993 <i>J. Biol. Chem.</i> "Direct Detection of Major Histocompatibility Complex Class I Binding to Antigenic Peptides Using Surface Plasmon Resonance," 268:15425-15434. (Exhibit 60)
		Lauzon, R.J., et al., 1989 <i>Cell Immunol.</i> "The Role of T cell receptors in non-MHC-restricted cytotoxicity," 118:265-284. (Exhibit 61)
		Carroll, R., et al., 1993 <i>Gene Therapy</i> "Construction and Characterization of Replication-Defective HIV-1 Packaging Cell", 17E:241: SZ401. (Exhibit 62)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)	Docket Number D0009NP;30436.53USU1	Application Number 09/877,987
	Applicant Robert M. Townsend et al.	
	Filing Date June 8, 2001	Group Art Unit 1645

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
		Linsley, Peter S., et al., 1992 <i>J.Ex.Med</i> "Coexpression and Functional Cooperation of CTLA-4 and CD28 on Activated T Lymphocytes," 176:1595-1604. (Exhibit 63)
		Linsley, Peter S., et al., 1994 <i>Immunity</i> "Human B7-1 (CD80) and B7-2 (CD68) Bind with Similar Avidities but Distinct Kinetics to CD28 and CTLA-4 Receptors," 1:793-801. (Exhibit 64)
		Linsley, Peter S., et al., 1995 <i>J. Biol. Chem.</i> "Binding Stoichiometry of the Cytotoxic T Lymphocyte-associated -Molecule-4 (CTLA-4)," 270:15417-15424. (Exhibit 65)
		Linsley, Peter S., and J.A. Ledbetter. 1993 <i>Annu. Rev.Immol.</i> "The Role of the CD28 receptor during T cell responses to antigen," 11:191-212. (Exhibit 66)
		Malik, Najma et al., 1989 <i>Mol. and Cell. Biol.</i> "Molecular Cloning, Sequence Analysis, and Functional Expression of a Novel Growth Regulator, Oncostatin M.,"9:2847-2853. (Exhibit 67)
		Martz, E., et al. 1985 <i>Adv.Exp.Med.Biol.</i> "Lymphocyte function-associated antigens: regulation of lymphocyte adhesions in vitro and immunity in vivo," 184:291-307. (Exhibit 68)
		Metzler, William J., et al., 1997 <i>Nature Struct. Biol.</i> "Solution structure of human CTLA-4 and delineation of a CD80/CD86 Binding Site Conserved in CD28,"4:527-531. (Exhibit 69)
		O'Shannessy, et al., 1993 <i>Anal. Biochem</i> "Determination of Rate and Equilibrium Binding Constants for Macromolecule Interactions Using Surface Plasmon Resonance: Use of Nonlinear Least Squares Analysis Methods," 212:457-468. (Exhibit 70)
		Peach, Robert J., et al., 1994 <i>J.Exp.Med.</i> "Complementarily Determining Region 1 (CDR1) and CDR3-analogous Regions in CLTA-4 and CD28 Determine the Binding to B7-1," 180:2049-2058. (Exhibit 71)
		Price, M.R., et al., 1986 <i>Br. J. Cancer</i> "Epitope analysis of monoclonal antibody NCRC-11 defined antigen isolated from human ovarian and breast carcinomas,"54:393-400. (Exhibit 72)
		Wallace, Philip M., et al., 1994 <i>Transplantation</i> "CTLA4Ig Treatment Ameliorates the lethality of murine graft-versus-host disease across major histocompatibility complex barriers," 58:602-610. (Exhibit 73)
		Williams, Sander R., et al., 1991 <i>Proc. Natl. Acad. Sci.</i> "Introduction of foreign genes into tissues of living mice by DNA-coated microprojectiles," 88:2726-2730. (Exhibit 74)
		Wingett, D., et al. 1999 <i>Cell Immunol.</i> "A Role for CD99 in T cell activation,"193:17-23. (Exhibit 75)
		Yokochi, Takashi, et al., 1982 <i>Journal of Immunology</i> "B Lymphoblast Antigen (BB-1) Expressed on Epstein-Barr Virus-Activated B Cell Blasts, B Lymphoblastoid Cell Lines, and Burkitt's Lymphomas," 128:823-827. (Exhibit 76)
		Bolling, Steven F., et al., 1996 <i>The Journal of Heart and Lung Transplantation</i> "Preventing allograft rejection with CTLA4IG: effect of donor-specific transfusion route or timing," 15:928-935. (Exhibit 77)
		Isobe, Mitsuki., et al., 1997 <i>The Journal of Heart and Lung Transplantation</i> "Assessment of tolerance induction to cardiac allograft by anti-ICAM-1 and Anti-LFA-1 Monoclonal antibodies," 16:1149-1156. (Exhibit 78)
		Jaiswal, Archana I., et al., 1996 <i>International Immunology</i> "Regulation of CD40 ligand expression on naïve CD4 T cells: a role for TCR but not co-stimulatory signals," 8:275-285. (Exhibit 79)
		Suzuki, Jun-ichi, et al., 1997 <i>The Journal of Heart and Lung Transplantation</i> "Inhibition of accelerated coronary atherosclerosis with short-term blockade of intercellular adhesion molecule-1 and lymphocyte function-associated antigen-1 in a heterotopic murine model of heart transplantation," 16:1141-1148. (Exhibit 80)
		Greene, J., et al., 1996 <i>The Journal of Biological. Chem.</i> "Covalent Dimerization of CD28/CTLA-4 and Oligomerization of CD80/CD86 regulate T cell costimulatory interactions ," 271:26762-26771. (Exhibit 87)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449) Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE